

U.S. Patent Application No. 10/091,377
Amendment dated April 21, 2004
Reply to Office Action dated February 5, 2004

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claim 1 (currently amended): A method to control hydrogen sulfide or arsine emissions or both during the processing of ore comprising adding at least one copper compound to said ore in an amount sufficient to control said emissions, wherein said ore is tantalum-bearing ore.

Claim 2 (original): The method of claim 1, wherein said at least one copper compound is CuO or CuSO₄ or both.

Claim 3 (original): The method of claim 1, wherein said at least one copper compound is copper oxide.

Claim 4 (canceled)

Claim 5 (original): The method of claim 1, wherein said tantalum bearing ore is pegmatite, carbonite, apo-granite, alkaline complex, pegmatitic granite, scarn or combinations thereof.

Claim 6 (original): The method of claim 1, wherein said at least one copper compound is added in an amount of from about 0.1 to about 5 weight percent based on the weight of the ore.

Claim 7 (original): The method of claim 1, wherein said at least one copper compound is added in an amount of from about 0.1 to about 1.0 weight percent based on the weight of the ore.

Claim 8 (currently amended): A method to control hydrogen sulfide or arsine emissions or both during the digestion of tantalum bearing ore comprising adding at least one copper compound to said tantalum-bearing ore prior to or during said digestion, or both.

Claim 9 (original): The method of claim 8, wherein said digestion occurs by contacting said tantalum-bearing ore with at least one acid.

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Claim 10 (original): The method of claim 9, wherein said acid comprises HF acid.

Claim 11 (original): The method of claim 8, wherein said at least one copper compound is copper oxide.

Claim 12 (original): The method of claim 8, wherein said at least one copper compound is CuO, CuSO₄, or both.

Claim 13 (original): The method of claim 8, wherein said at least one copper compound is added prior to the digestion.

Claim 14 (original): The method of claim 8, wherein said at least one copper compound is added on a continuous basis to said tantalum-bearing ore during said digestion.

Claim 15 (original): The method of claim 8, wherein said at least one copper compound is added batchwise to said tantalum-bearing ore during said digestion.

Claim 16 (original): The method of claim 8, wherein said hydrogen sulfide emissions are reduced by 50% compared to digestion where no copper compound is present.

Claim 17 (original): The method of claim 8, wherein said hydrogen sulfide emissions are reduced by at least 90% compared to digestion wherein no copper compound is used.

Claim 18 (currently amended): The method of claim 8, wherein said at least one copper compound is added in a weight ratio of from about 0.5:1 to 2.5:1, ~~[[]]~~ copper compound to sulfur present in ore~~[]]~~.

Claim 19 (original): The method of claim 8, wherein said at least one copper compound is added in an amount of from about 0.1 to about 5 weight percent based on the weight of the ore.

Claim 20 (currently amended): A method to control hydrogen sulfide or arsine emissions or both during the processing of material containing sulfur comprising adding at least one copper compound to said material in an amount sufficient to control said emissions, wherein said

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material is a valve metal comprising ore.

Claim 21 (canceled)

Claim 22 (original): The method of claim 20, wherein said at least one copper compound is a copper oxide.

Claim 23 (original): The method of claim 20, wherein said at least one copper compound is added to said material during digestion of said material.